Caffeine and babies

Michèle I Clement

My caffeine consumption has always been heavy. At its height, during pre-examination periods, it would reach eight to 10 mugs of strong black coffee a day, perhaps with the occasional cup of tea or glass of Coca-Cola in addition. Indeed, over the years as a junior doctor I had learnt the coffee drinking reflex as a response to drowsiness. The nausea of early pregnancy broke the back of my caffeine dependence, but my requirements increased again with the sleep deprivation which the new baby brought. A conservative estimate of my caffeine intake after the birth of my first child would be four mugs of tea, one can of Coca-Cola, and five mugs of coffee a day.

In retrospect I do not find it surprising that my first baby did not sleep. Even in those first "sleepy" weeks he would sleep for only an hour or two during the day and for no longer than three hours at a stretch at night. He would often fall asleep while feeding, only to rouse as soon as he was placed in his cot. From about 3 months of age he settled into a pattern of sleeping for an hour or so in the morning and would then be awake and fretful, seemingly tired, for the rest of the day. Late in the evening he would collapse exhausted into a deep sleep, only to be wide awake again at 3 am. He and I would then pass the time until sleep blessed us again some two hours later. This pattern continued for many exhausting months.

I was determined that my second child would be a "good" baby, but at 2 weeks of age he was showing the same features as the first: he was jumpy and fretful and fell into only short fitful sleeps day or night. The desperation I had felt with the first child returned. A colleague of my husband had at one time studied the use of caffeine in the treatment of sleep apnoea in infants and thought that too little attention was paid to the role of caffeine in sleeplessness in breast fed infants. On his advice I embarked on a completely caffeine free existence. Apart from feeling calmer myself, there was a definite change in the baby after about one week. He did what the popular books on baby care say that babies should do: slept for three hour stretches by day and five hour stretches by night, broken by feeds and short periods of wakefulness. Apart from when he was unwell, there was only one occasion when he was awake for a prolonged period during the night and that was after I had spent a day drinking ordinary tea and coffee.

* * *

Sleeplessness in infants is of course extremely common and over a prolonged period results in exhausted and irritable parents. Never having more than three hours of unbroken sleep night after night for months on end and being helpless to do anything about it produces a kind of desperation that only those who have experienced such sleep deprivation can appreciate. It is far worse than a one in two house job: there are no nights or days off. There is little that general practitioners or health visitors can do, although the sympathetic ear is some comfort. Sedating the baby, though sometimes necessary, often does not work and is not a satisfactory solution.

. . . apart from feeling calmer myself, there was a definite change in the baby after about one week.

It is well known that caffeine is a stimulant and that it is secreted in breast milk. Caffeine has been assessed in the treatment of sleep apnoea in infants, and it has been shown that the plasma half life of caffeine in newborns is about 100 hours, with adult plasma clearance rates being attained only at around 5-6 months of age. Several studies have been performed to assess the amount of caffeine transferred to infants in breast milk, with results varying greatly both among studies and among patients within studies. Clearly the pharmacokinetics of caffeine show considerable variability, particularly when such complexities as secretion into breast milk and ingestion by an infant are taken into account. Taking an average of the figures available, about 0·7% of a maternal ingested dose of 200 mg of caffeine would give the infant 1·4 mg of caffeine, much less than the 15 mg/kg/day required therapeutically in the treatment of apnoea. But frequent large doses of caffeine—for example, 1600 mg over a 15 to 18 hour period—would not be unusual in a heavy coffee drinker and would expose the infant to over 10 mg a day. With the delayed excretion of caffeine a rising plasma concentration would be produced in the infant and central stimulant effects would be likely to result.

* * *

It seems to me surprising that so few standard textbooks on child care even allude to caffeine consumption as a possible contributory factor in sleepless babies and certainly do not advise moderation. Indeed, a recent editorial in the *BMJ* made no mention of caffeine consumption during breast feeding. There is little information on the effects of caffeine consumption in pregnancy, but since preterm infants are known to clear caffeine even more slowly than full term infants and since caffeine has a prolonged half life in pregnancy many infants are probably exposed to high doses of caffeine in utero and perhaps moderation of caffeine consumption in late pregnancy should also be advised.

My experience is of course mere anecdote: perhaps my second baby would have settled anyway. I needed to do something when it looked otherwise, however, and elimination of caffeine from my diet was an easy and positive measure which seemed to work. I would recommend it as something that general practitioners and health visitors should include in their armamentarium of advice for the exhausted and despairing parents of a sleepless, breast fed infant.

Michèle I Clement is a consultant dermatologist from Kent

On not being born a native speaker of English

J P Vandenbroucke

Not to have been born with English as your mother tongue is a major hereditary occupational handicap for a medical scientist. It becomes worse if the language of your childhood is spoken only in one or two very small countries. Any attempt to reach international audiences is of necessity in a foreign language.

The problem is not new. When browsing along shelves in Dutch medical libraries where older doctoral dissertations are kept you find these are mainly written in Latin up to the late nineteenth century. Only in the second half of the nineteenth century does some Dutch, French, and German creep in. In the beginning of the twentieth century German plays the overtone, with a slight temporary setback around the first world war and an abrupt disappearance after the second. After the second world war the local Dutch language and the international English compete, to the detriment of the former. By the language a thesis is written in you immediately judge its quality: the "local" ones are written in Dutch, while those scientists aspiring for international recognition write directly in English. Whether the scientific communication in The Netherlands should remain in Dutch was already being hotly debated early in this century by both proponents of the French and the German schools of medicine. The proposal for French and German language medical journals in The Netherlands was a consequence, just as we have nowadays the English language *Netherlands Journal of Medicine.*

A most venerable medical journal in The Netherlands the *Nederlands Tijdschrift voor Geneeskunde* is as old or older than the *New England Journal of Medicine*, the *Lancet*, the *British Medical Journal*, or *JAMA*. It has similar origins. Yet publications in the local language are not counted by inside or outside reviewers of academic performance when scientific pecking orders are calculated to rank persons or departments. Dutch publications are judged somehow as a local folklore. Still, the journal has a printing of approximately 31 000—that is, only 5000 less than *Nature* and 10 000 less than the world circulation of the *Lancet*. It is a major source of respected medical opinion among the practising part of the profession—that is, the majority—in The Netherlands and the Dutch speaking part of Belgium. You serve this local journal, as a reviewer or editor, for the sake of medical practice in the Dutch speaking world. By doing so, however, you almost risk a rebuttal by academic review boards that emphasise the international publish or perish game—of necessity in English. In consequence, we write a lot of papers twice, again risking some not too friendly rapping on the knuckles by an English language big brother journal if we do not comply strictly enough to the rules and regulations of an international group of English language editors who are rightly concerned about duplicate publications.

. . . when teaching my own trade, epidemiology, I often no longer know whether I think in English or Dutch.

In many of the respected and better research institutions in The Netherlands scientific staff meetings are held in English to accustom young researchers to defend their results and points of view in a non-native tongue. Dunglish, a contraction of English and Dutch is parroted at such meetings. If, inadvertently, we slip into our mother tongue it is interspersed with bastardised English words. When teaching my own trade, epidemiology, I often no longer know whether I think in English or in Dutch.

We teach our children English at young ages and send them to expensive summer schools in Britain during vulnerable periods of their adolescence as an investment for their future careers. We disregard the Dutch literature and read English novels during holidays to expand our vocabularies and improve style. Budding young medical researchers are advised to read Agatha Christie while commuting; more experienced ones can take Dorothy Sayers. In the evenings we watch BBC television, again to be confronted with the living English language. Our secretaries are urged to polish their English along similar lines.

At present young researchers write fewer grammatical and stylistic errors in their adult acquired English than in their native Dutch. Moreover, a language barrier is created between upper class medical science and lower class medical practice. It is a situation that not only do we seem unwilling to change but one that we actively encourage in the more prestigious part of our academia. Perhaps we ought to have been born overseas.

J P Vandenbroucke is a professor of clinical epidemiology from Leiden, The Netherlands

OPINION

Recycled words

Louis Appleby

Anyone edging across a kerb in Florence can be excused an absurdly egocentric thought: wherever I am, the ban on traffic is always one street or one hour away. In fact this may be true as the ban is partial, like the motivation behind it—the motivation of several Italian cities to reduce the corrosive toxins which gush from traffic, attacking frescoes, lungs, and much in between. The car exhaust has become public enemy number one in the cause of public health.

Across Europe other innovations to mitigate the harm of filthy urban air are appearing. In parts of Germany regular radio broadcasts, issued like the weather forecast or the day's pollen count, warn those with bronchitis and angina that what they are about to breathe will be thick with pollutants which might tip them towards hypoxia. More widespread are the garage billboards sporting the words "lead free" in four languages—soon to be one of those phrases, like "Do not lean out" or "Norway, no points," in which everyone is multilingual.

But the recent impact of green campaigning on public awareness is at best selective, and selective success is easy for others to manipulate. That impact has centred on the high profile twins of new environmentalism: lead and ozone. Too much of one, not enough of the other. A redefinition has taken place, and environment has become a word that means what the user wants it to mean, which in the case of green pressure groups includes anything poisoned or crumbling from the noxious chemical outpourings of city life.

Condemned to the fringe

Such single issue success destines the greens to the perpetual political fringe as each opinion is swallowed up by a bigger fish as soon as it is big enough to matter. But worse is that redefining the environment allows authorities, from the cabinet to the boardroom, to claim an ecological conscience after the merest action, however overdue. So a tax change on bleifrei petrol passes in itself for an environmental health policy.

Yet atmospheric lead is far from a priority with Friends of the Earth, who regard the lead debate as won thanks to its purported harm to children's intellectual progress and who want action on many commoner murky emissions from urban traffic which they fear will damage plants, animals, and humans (in no obvious order of importance). Petrol powered vehicles produce 85% of ambient carbon monoxide, which can provoke cardiac disease and chest infections. The same vehicles take the blame for 30% of pollutant hydrocarbons, allegedly a prime culprit in the increased urban risk of lung cancer. Friends of the Earth are pushing for German style pollution alerts but reject the Florentine traffic ban as no substitute for an overall transport policy that would cut car numbers or alter their chemistry (a "tech-fix" in the sawn off vernacular).

With such a broad target it's no wonder that single issues predominate in the public mind. But overfocused concern allows any government likewise to redefine the environment in its own image. So where the greens mean ozone and lead our own government talks of, well, litter.

So much recycling of words doesn't challenge the view that it is chemical concoctions like those billowing from a million engines which provide the worst environmental hazards to health, increasing avoidable illness or lowering IQ. But does this begin to compare with the effects of the broader environment—overcrowding, limited schooling, or absent prospects? What do these do to respiratory infections or educational achievement or, for that matter, alcoholism or suicide?

What is absent from this health debate is the *medical* redefinition of the environment to mean whatever may be altered and, in particular, harmful social circumstances, most of all dreadful housing and educational neglect. By definition, rhetoric on environmentalism looks hollow. There's little value in a playground free of litter if the classroom itself has nothing to offer.